EXPRESS MAIL NO. EU 972 304 607 US

PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

6) bstitute for form 1449A/PTO						Complete if Known					
E 10	T ()	DEEEDS	ENC	ES CITI	EN B	ıv	Application Number			10/719,925	
Substitute for form 1449A/PTO SUBSTITUTE OF REFERENCES CITED BY APPLICANT								ing C	Date	11/20/2003	
								st Na	amed Inventor	Mohammad H.S. Am	iin
							Art	Art Unit		2811	
	(us	e as many she	ets as	necessary	<i>(</i>)		Ex	Examiner Name		Sara W. Crane	
Sheet		1	of		3	3 Attorney Docket Num		y Docket Number	706700-999150		
			<u> </u>	(J.S. P	ATENT	DO	CUM	ENTS		
Examiner Initials	Cite No. 1	Document Number - Kind C		known)	Publication Date MM-DD-YYYY			Name of Patentee or Applicant of Cited Document		Pages, Columns, Lines, Wher Relevant Passages or Relevan Figures Appear	
SWC	AA	US- 5,323,3	344		06-21-1994)4	Katayama et al.			/
)	АВ	US- 5,768,2	297		06-16-1998		8	Shor			
	AC	US- 6,459,0	097 B	1	10-01-2002)2	Zagoskin			
	AD	US- 6,495,8	854 B	1	12-17-2002)2	Newns et al.			٠
	AE	US- 6,563,3	311 B	2	05-13-2003)3	Zagoskin			
	AF	US- 6,627,915 B1			09-30-2003)3	Ustinov et al.			
	AG	US-6,803,599 B2			10-12-2004		Amin et al.				
	АН	US- 2004/0077503 A1			04-22-2004		Blais et al.				
	ΑI	US- 60/341,974						If ichev et al.			
	AJ	US- 60/370,087						Lidar et al.			
SWC	AK	US- 60/429,170				/ Amin et al.			n et al.		
				FO	REIGN	PATE	NT (DOC	UMENTS		·
Examiner Initials		Foreign Patent Document Country Code ³ - Number ⁴ - Kind Code ⁵ (if know		Publication MM-DD-Y				Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	۲۵	
											_
						<u> </u>					
		OTI	HER A	RT (Includ	ling A	uthor,	Title	, Dat	te, Pertinent Pages,	ETC.)	
SWL		current gene	eration	in an inh	omog	eneou	s d-1	wave	superconductor,"	isms of spontaneous Phys. Rev. B <mark>63</mark> , 212502	<u>). </u>
		Amin, M.H.S	., A.N	. Omelya	nchou	k, S.N	. Ra	shke	eev, M. Coury, A.M	. Zagoskin, 2002,	
Sw 4		"Quasiclassical Theory of Spontaneous Currents at Surfaces and Interfaces of d-Wave Superconductors," Physica B 318, 162.									
SWC		Averin, D.V., J.R. Friedman, J.E. Lukens, 2000, "Macroscopic resonant tunneling of magnetic flux," Phys. Rev. B 62, 11802.									

Date

Considered

Examiner Signature

Substitute	e for form 1449A/PT	О		Complete if Known		
LIS	T OF REFE	RENCES	CITED BY	Application Number	10/719,925 11/20/2003	
Lio		LICANT	•	Filing Date		
				First Named Inventor	Mohammad H.S. Amin	
				Art Unit	2811	
	(use as many	sheets as ne	ecessary)	Examiner Name	Sara W. Crane	
Sheet	2	of	3	Attorney Docket Number	706700-999150	

SUC	AO	Blais, A., A. Maassen van den Brink, A.M. Zagoskin, 2003, "Tunable Coupling of Superconducting Qubits," Phys. Rev. Lett. 90, 127901.
	AP	Blais, A., A.M. Zagoskin, 2000, "Operation of universal gates in a solid-state quantum computer based on clean Josephson junctions between <i>d</i> -wave superconductors," Phys. Rev. A 61, 042308.
	AQ	Bruder, C., A. van Otterlo, G.T. Zimanyi, 1995, "Tunnel junctions of unconventional superconductors," Phys. Rev. B 51, 12904.
	AR	Cohen-Tannoudji, C.N., 1998, "Manipulating atoms with photons;" Rev. Mod. Phys. 70, p. 707-719.
	AS	DiVincenzo, D.P., 2000, "The Physical Implementation of Quantum Computation", published on ArXiv.org preprint server: quant-ph/0002077.
\prod	ΑT	Dodd, J.L., M. A. Nielsen, M.J. Bremner, and R.T. Thew, 2002, "Universal quantum computation and simulation using any entangling Hamiltonian and local unitaries," Phys. Rev. A 65, 040301.
	AU	Došlić, N., O. Kühn, J. Manz, K. Sundermann, 1998, "The 'Hydrogen Subway' – A Tunneling Approach to Intramolecular Hydrogen Transfer Reactions Controlled by Ultrashort Laser Pulses," Jour. Phys. Chem. A 102 , 9645-9650.
	AV	Ferguson, A.J., P.A. Cain, D.A. Williams, G.A.D. Briggs, 2002, "Ammonia-based quantum computer," Phys. Rev. A 65, 034303.
	AW	Feynman, R., 1965, <i>The Feynman Lectures on Physics Vol. 3</i> , Addison-Wesley, Reading, Mass., pp. 8.11-8.14.
	AX	Friedman, J.R., D.V. Averin, 2002, "Aharonov-Casher-Effect Suppression of Macroscopic Tunneling of Magnetic Flux," Phys. Rev. Lett. 88, 050403.
	AY	ll'ichev, E., M. Grajcar, R. Hlubina, R. P. J. IJsselsteijn, H. E. Hoenig, HG. Meyer, A. Golubov, M. H. S. Amin, A. M. Zagoskin, A. N. Omelyanchouk, M.Yu. Kupriyanov, 2001, "Degenerate Ground State in a Mesoscopic YBa₂Cu₃O _{7-x} Grain Boundary Josephson Junction," Phys. Rev. Lett. 86 , 5369.
	ΑZ	Il'ichev, E., V. Zakosarenko, L. Fritzsch, R. Stolz, H.E. Hoenig, HG. Meyer, M. Götz, A.B. Zorin, V.V. Khanin, A.B. Pavolotsky, J. Niemeyer, 2001, "Radio-frequency based monitoring of small supercurrents," Rev. Sci. Instru. 72, 1882-1887.
\Box	BA	Kulik, I.O., T. Hakioglu, A. Barone, 2002, "Quantum Computational Gates with Radiation Free Couplings," arXiv.org:cond-mat/0203313.
	BB	Lu, N., E.J. Robinson, P.R. Berman, 1987, "Coherent dynamics and complete population depletion of a special three-level quantum system," Phys. Rev. A 35, 5088-5098.
	ВС	Maassen van den Brink, A., 2003, "Comment on 'Aharonov-Casher-Effect Suppression of Macroscopic Tunneling of Magnetic Flux'," arXiv.org:cond-mat/0206218.
Swc	BD	Makhlin Y., G. Schön, and A. Shnirman, 2001, "Quantum-State Engineering with Josephson-Junction Devices," Rev. of Mod. Phys. 73 , pp. 357–400.

Examiner Signature	CRANE	Date Considered	3/2005

Substitute	e for form 1449A/PTO	•		Complete if Known			
LIS	T OF REFER	FNC	ES CITED BY	Application Number	10/719,925		
LIO	APPL			Filing Date	11/20/2003		
				First Named Inventor	Mohammad H.S. Amin		
			٠.	Art Unit	2811		
(use as many sheets as necessary)			s necessary)	Examiner Name	Sara W. Crane		
Sheet	3	of	3	Attorney Docket Number	706700-999150		

Sul	BE	Martinis, J.M., S. Nam, J. Aumentado, C. Urbina, 2002, "Rabi Oscillations in a Large Josephson-Junction Qubit," Phys. Rev. Lett. 89, 117901.						
•/	BF	Metcalf, J., P. van der Straten, 1999, <i>Laser Cooling and Trapping</i> , Springer-Verlag, New Yorl pp. 259-261.						
	BG	Mooij, J.E., T.P. Orlando, L. Levitov, L. Tian, C.H. van de Wal, S. Lloyd, 1999, "Josephson Persistent-Current Qubit," Science 285, 1036.						
		Murali, K.V.R.M., D.S. Crankshaw, T.P. Orlando, Z. Dutton, W.D. Oliver, 2003, "Probing Decoherence with Electromagnetically Induced Transparency in Superconductive Quantum Circuits," arXiv.org:cond-mat/0311471.						
•	BI	Nicoletti, S., H. Moriceau, J.C. Villegier, D. Chateigner, B. Bourgeaux, C. Cabanel, J.Y. Laval, 1996, "Bi-epitaxial YBCO grain boundary Josephson junctions on SrTiO ₃ and sapphire substrates," Physica C 269 , 255-267.						
	BJ	Nielsen, M.A., and I.L. Chuang, 2000, <i>Quantum Computation and Quantum Information</i> , Cambridge University Press, Cambridge, UK, p. 174.						
	BK	Orlando, T.P., J.E. Mooij, L. Tian, C.H. van der Wal, L.S. Levitov, S. Lloyd, J.J. Mazo, 1999, "Superconducting persistent-current qubit," Phys. Rev. B 60, 15398.						
	BL	Palao, J.P., R. Kosloff, 2002, "Quantum Computing by an Optimal Control Algorithm for Unitary Transformations," Phys. Rev. Lett. 89, 188301.						
	ВМ	Plastina, F., G. Falci, 2002, "Communicating Josephson Qubits," arXiv.org:cond-mat/0206586.						
$\overline{7}$	BN	Shore, B.W., 1990, <i>The Theory of Coherent Atomic Excitation Vol.</i> 2, Wiley, New York, section 13.7.						
\prod	во	Tian, L., S. Lloyd, 2000, "Resonant cancellation of off-resonant effects in a multilevel qubit," Phys. Rev. A 62, 050301.						
	BP	Yu, Y., S. Han, X. Chu, SI Chu, Z. Wang, 2002, "Coherent Temporal Oscillations of Macroscopic Quantum States in a Josephson Junction," Science 296, 889-892.						
	BQ	Zagoskin, A.M., 1999, "A scalable, tunable qubit, based on a clean DND or grain boundary D-D junction," arXiv.org:cond-mat/9903170.						
Suc	BR	Zhou, Z.Y., SI Chu, S. Han, 2002, "Quantum computing with superconducting devices: A three-level SQUID qubit," Phys. Rev. B 66, 054527.						
Examiner Signature		CRANE Date Considered 3/2005						
		\mathcal{L}_{I}						

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1. Applicant's unique citation designation number (optional). 2 See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the Indication of the year of the reign of the Emperor must precede the serial number of the patent document. 8 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. 8 Applicant is to place a check mark here if English language Translation is state-hed.

Burden Hours Statement: This form is estimated to take 2.0 hours to complete. The will yap description upon the needs of the ladicidual cond.